

## General

### Title

Adult acute and subacute low back pain: percentage of patients with non-specific back pain diagnosis who received inappropriate repeat imaging studies in the absence of "red flags" or progressive symptoms.

### Source(s)

Goertz M, Thorson D, Bonsell J, Bonte B, Campbell R, Haake B, Johnson K, Kramer C, Mueller B, Peterson S, Setterlund L, Timming R. Adult acute and subacute low back pain. Bloomington (MN): Institute for Clinical Systems Improvement (ICSI); 2012 Nov. 91 p. [133 references]

## Measure Domain

### Primary Measure Domain

Clinical Quality Measures: Process

### Secondary Measure Domain

Does not apply to this measure

## Brief Abstract

### Description

This measure is used to assess the percentage of patients age 18 years and older with non-specific back pain diagnosis who received inappropriate repeat imaging studies in the absence of "red flags" or progressive symptoms.

### Rationale

The priority aim addressed by this measure is to reduce or eliminate imaging for non-specific low back pain diagnosis in patients 18 years and older in the absence of "red flag" indicators.

Of the 354 million patient visits per year for acute care in the United States only 42% are seen by primary care providers: 28% are seen in the emergency room and 20% are seen by specialists. Visits to primary care clinicians for low back pain are equally split between chiropractors and allopathic clinicians, with low back pain as the fifth most common reason for an office visit to all clinicians. The majority of

these visits are not because of pain but rather due to the disability associated with the low back symptoms.

It is estimated that only 15% of all low back pain has an identifiable anatomic explanation. The other 85% is identified as non-specific low back pain. The concept that most low back pain is related to a specific injury is challenged by the recent work of multiple authors showing a limited relationship between low back pain and physical exposures. The discussion of the pathophysiology indicates that it is a multifactorial symptom, which may start with an injury reaction but is exacerbated by concomitant factors that may extend symptoms far past the normal healing time for injured tissues. Co-factors that contribute to persistent pain may include deconditioning, psychological issues, other chronic illnesses, genetics and even culture.

## Evidence for Rationale

Bakker EW, Verhagen AP, van Trijffel E, Lucas C, Koes BW. Spinal mechanical load as a risk factor for low back pain: a systematic review of prospective cohort studies. *Spine (Phila Pa 1976)*. 2009 Apr 15;34(8):E281-93. [50 references] [PubMed](#)

Deyo RA, Mirza SK, Martin BI. Back pain prevalence and visit rates: estimates from U.S. national surveys, 2002. *Spine (Phila Pa 1976)*. 2006 Nov 1;31(23):2724-7. [14 references] [PubMed](#)

Ferreira ML, Machado G, Latimer J, Maher C, Ferreira PH, Smeets RJ. Factors defining care-seeking in low back pain--a meta-analysis of population based surveys. *Eur J Pain*. 2010 Aug;14(7):747.e1-7. [PubMed](#)

Goertz M, Thorson D, Bonsell J, Bonte B, Campbell R, Haake B, Johnson K, Kramer C, Mueller B, Peterson S, Setterlund L, Timming R. Adult acute and subacute low back pain. Bloomington (MN): Institute for Clinical Systems Improvement (ICSI); 2012 Nov. 91 p. [133 references]

Roffey DM, Wai EK, Bishop P, Kwon BK, Dagenais S. Causal assessment of awkward occupational postures and low back pain: results of a systematic review. *Spine J*. 2010 Jan;10(1):89-99. [52 references] [PubMed](#)

Schwarzer AC, Aprill CN, Bogduk N. The sacroiliac joint in chronic low back pain. *Spine (Phila Pa 1976)*. 1995 Jan 1;20(1):31-7. [PubMed](#)

Wai EK, Roffey DM, Bishop P, Kwon BK, Dagenais S. Causal assessment of occupational bending or twisting and low back pain: results of a systematic review. *Spine J*. 2010 Jan;10(1):76-88. [55 references] [PubMed](#)

Wai EK, Roffey DM, Bishop P, Kwon BK, Dagenais S. Causal assessment of occupational lifting and low back pain: results of a systematic review. *Spine J*. 2010 Jun;10(6):554-66. [62 references] [PubMed](#)

Weinick RM, Burns RM, Mehrotra A. Many emergency department visits could be managed at urgent care centers and retail clinics. *Health Aff (Millwood)*. 2010 Sep;29(9):1630-6. [PubMed](#)

## Primary Health Components

Acute low back pain (non-specific); repeat imaging studies; "red flag" indicators; progressive symptoms

## Denominator Description

Number of patients with diagnosis of non-specific back pain (see the related "Denominator Inclusions/Exclusions" field)

## Numerator Description

Number of patients who have repeat imaging studies in the absence of "red flags" or progressive symptoms

## Evidence Supporting the Measure

### Type of Evidence Supporting the Criterion of Quality for the Measure

A clinical practice guideline or other peer-reviewed synthesis of the clinical research evidence

### Additional Information Supporting Need for the Measure

- The majority of individuals with an episode of acute low back pain improve and return to work within the first two weeks. The probability of recurrence within the first year ranges from 30% to 60%. Most of these recurrences will recover in much the same pattern as the initial event. In as many as one-third of the cases, the initial episode of low back pain persists for the next year. Most of these individuals continue to function with only limited impairment.
- Most of the total cost for low back pain is dedicated to the small percentage of sufferers whose condition has progressed to the chronic disabling stage (pain for more than 12 weeks). The medical costs for low back pain in general were estimated at \$26.3 billion in 1998 and now are one-third to one-fourth of the total cost of care. Lost production and disability account for other costs. Disability alone claims 80% of the total expense of this condition. Expenditures for medical care and disability continue to increase. The human cost is equally significant; low back pain is currently the second most common cause of disability in the United States and is the most common cause of disability in those under age 45.
- Approximately two-thirds of the people who recover from a first episode of acute low back symptoms will have another episode within 12 months.
- Low back pain, alone or in combination with pelvic pain, is a common problem suffered by women during pregnancy. Studies estimate 50% to 80% of women will suffer from low back pain during pregnancy, and one study found that approximately 62% of pregnant women suffering from low back pain rated it as moderately severe. Despite the significance of this problem, only one-third of pregnant women reported low back pain to their prenatal care providers.

### Evidence for Additional Information Supporting Need for the Measure

Centers for Disease Control and Prevention (CDC). Prevalence and most common causes of disability among adults--United States, 2005. MMWR Morb Mortal Wkly Rep. 2009 May 1;58(16):421-6. [PubMed](#)

Chou R, Qaseem A, Snow V, Casey D, Cross JT Jr, Shekelle P, Owens DK, Clinical Efficacy Assessment Subcommittee of the American College of Physicians, American College of Physicians, American Pain Society Low Back Pain Guidelines Panel. Diagnosis and treatment of low back pain: a joint clinical practice guideline from the American College of Physicians and the American Pain Society. Ann Intern Med. 2007 Oct 2;147(7):478-91. [PubMed](#)

Goertz M, Thorson D, Bonsell J, Bonte B, Campbell R, Haake B, Johnson K, Kramer C, Mueller B, Peterson S, Setterlund L, Timming R. Adult acute and subacute low back pain. Bloomington (MN): Institute for Clinical Systems Improvement (ICSI); 2012 Nov. 91 p. [133 references]

Hayden JA, Dunn KM, van der Windt DA, Shaw WS. What is the prognosis of back pain?. Baillieres Best Pract Res Clin Rheumatol. 2010 Apr;24(2):167-79. [PubMed](#)

Hestbaek L, Leboeuf-Yde C, Manniche C. Low back pain: what is the long-term course? A review of studies of general patient populations. Eur Spine J. 2003 Apr;12(2):149-65. [46 references] [PubMed](#)

Luo X, Pietrobon R, Sun SX, Liu GG, Hey L. Estimates and patterns of direct health care expenditures among individuals with back pain in the United States. Spine (Phila Pa 1976). 2004 Jan 1;29(1):79-86. [PubMed](#)

Pengel LH, Herbert RD, Maher CG, Refshauge KM. Acute low back pain: systematic review of its prognosis. BMJ. 2003 Aug 9;327(7410):323. [9 references] [PubMed](#)

Pennick V, Young G. Interventions for preventing and treating pelvic and back pain in pregnancy. In: The Cochrane Library [database online]. issue 4. ; 2008 [accessed 2013 Apr 15].

Sabino J, Grauer JN. Pregnancy and low back pain. Curr Rev Musculoskelet Med. 2008 Jun;1(2):137-41. [PubMed](#)

Stapleton DB, MacLennan AH, Kristiansson P. The prevalence of recalled low back pain during and after pregnancy: a South Australian population survey. Aust N Z J Obstet Gynaecol. 2002 Nov;42(5):482-5. [PubMed](#)

## Extent of Measure Testing

Unspecified

## State of Use of the Measure

### State of Use

Current routine use

### Current Use

not defined yet

## Application of the Measure in its Current Use

### Measurement Setting

Ambulatory/Office-based Care

### Professionals Involved in Delivery of Health Services

not defined yet

## Least Aggregated Level of Services Delivery Addressed

Clinical Practice or Public Health Sites

## Statement of Acceptable Minimum Sample Size

Unspecified

## Target Population Age

Age greater than or equal to 18 years

## Target Population Gender

Either male or female

# National Strategy for Quality Improvement in Health Care

## National Quality Strategy Aim

Better Care

## National Quality Strategy Priority

Making Care Safer

Prevention and Treatment of Leading Causes of Mortality

# Institute of Medicine (IOM) National Health Care Quality Report Categories

## IOM Care Need

Getting Better

## IOM Domain

Effectiveness

Safety

# Data Collection for the Measure

## Case Finding Period

The time frame pertaining to data collection is monthly.

## Denominator Sampling Frame

Patients associated with provider

## Denominator (Index) Event or Characteristic

Clinical Condition

Patient/Individual (Consumer) Characteristic

## Denominator Time Window

not defined yet

## Denominator Inclusions/Exclusions

Inclusions

Number of patients with diagnosis of non-specific back pain

Population Definition: Patients 18 years and older seen in primary care.

Exclusions

Unspecified

## Exclusions/Exceptions

not defined yet

## Numerator Inclusions/Exclusions

Inclusions

Number of patients who have repeat imaging studies in the absence of "red flags" or progressive symptoms

Exclusions

Unspecified

## Numerator Search Strategy

Fixed time period or point in time

## Data Source

Electronic health/medical record

## Type of Health State

Does not apply to this measure

## Instruments Used and/or Associated with the Measure

Unspecified

## Computation of the Measure

### Measure Specifies Disaggregation

Does not apply to this measure

### Scoring

Rate/Proportion

### Interpretation of Score

Desired value is a lower score

### Allowance for Patient or Population Factors

not defined yet

### Standard of Comparison

not defined yet

## Identifying Information

### Original Title

Percentage of patients with non-specific back pain diagnosis who received inappropriate repeat imaging studies in the absence of "red flags" or progressive symptoms.

### Measure Collection Name

Adult Acute and Subacute Low Back Pain

### Submitter

Institute for Clinical Systems Improvement - Nonprofit Organization

### Developer

Institute for Clinical Systems Improvement - Nonprofit Organization

### Funding Source(s)

The Institute for Clinical Systems Improvement's (ICSI's) work is funded by the annual dues of the member medical groups and five sponsoring health plans in Minnesota and Wisconsin.

## Composition of the Group that Developed the Measure

*Work Group Members:* Michael Goertz, MD, MPH (*Work Group Leader*) (HealthPartners Medical Group) (Preventive and Occupational Medicine); David C. Thorson, MD (*Work Group Leader*) (Entira Family Clinics) (Sports Medicine and Family Medicine); Robb Campbell, MD, MPH (3M) (Occupational Medicine); Becky Mueller, DO (CentraCare) (Family Medicine and Sports Medicine); Jeff Bonsell, DC (HealthPartners Medical Group and Regions Hospital) (Chiropractic Medicine); Bret Haake, MD (HealthPartners Medical Group and Regions Hospital) (Neurology); Richard Timming, MD (HealthPartners Medical Group and Regions Hospital) (Physical Medicine and Rehabilitation); Brian Bonte, DO (Hutchinson Medical Center) (Family Medicine); Steve Peterson, PT (Orthopaedic Sports, Inc.) (Physical Therapy); Chris Kramer, PT, DPT, OCS, FAAOMPT (Park Nicollet Health Services) (Physical Therapy); Kari Johnson, RN (Institute for Clinical Systems Improvement [ICSI]) (Clinical Systems Improvement Facilitator); Linda Setterlund, MA, CPHQ (ICSI) (Clinical Systems Improvement Facilitator)

## Financial Disclosures/Other Potential Conflicts of Interest

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Where there are work group members with identified potential conflicts, these are disclosed and discussed at the initial work group meeting. These members are expected to recuse themselves from related discussions or authorship of related recommendations, as directed by the Conflict of Interest committee or requested by the work group.

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### Disclosure of Potential Conflicts of Interest

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Chiropractor, Preferred Chiropractic, HealthPartners Medical Group and Regions Hospital

National, Regional, Local Committee Affiliations: None

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Research Grants: None

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Research Grants: None

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Financial/Non-Financial Conflicts of Interest: None

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Research Grants: None

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Financial/Non-Financial Conflicts of Interest: None

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Guideline Related Activities: American Academy of Family Practice Commission of Health of Public and Science guideline group.

Research Grants: None

Financial/Non-Financial Conflicts of Interest: None

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Guideline Related Activities: ICSI Management of Chronic Pain Guideline work group

Research Grants: None

Financial/Non-Financial Conflicts of Interest: None

## Adaptation

This measure was not adapted from another source.

## Date of Most Current Version in NQMC

2012 Nov

## Measure Maintenance

Scientific documents are revised every 12 to 24 months as indicated by changes in clinical practice and literature.

## Date of Next Anticipated Revision

The next scheduled revision will occur within 24 months.

## Measure Status

This is the current release of the measure.

The measure developer reaffirmed the currency of this measure in January 2016.

## Measure Availability

Source available for purchase from the [Institute for Clinical Systems Improvement \(ICSI\) Web site](#)

. Also available to ICSI members for free at the [ICSI Web site](#)

and to Minnesota health care organizations free by request at the [ICSI Web site](#)

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## NQMC Status

This NQMC summary was completed by ECRI Institute on April 15, 2013.

The information was reaffirmed by the measure developer on January 13, 2016.

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## Production

### Source(s)

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